Vienna Instruments
Solo Download Instruments
Contrabass Tuba
Full Library

Contents

Introduction

Welcome to the Vienna Symphonic Library, and thank you for purchasing one of our Solo Download Instruments! This document contains the mapping information for the "Full" version of the Vienna Instruments Contrabass Tuba. You will find in it a comprehensive survey of the articulations/Patches content, a listing of abbreviations, and the mapping list proper which gives details for every Patch, Matrix, and Preset.

"Full" Library

As opposed to the "Standard" versions of our Solo Download Instruments, the "Full" versions are identical with the corresponding instruments of a DVD Collection, i.e., they contain exactly the same samples, Patches, Matrices and Presets as the latter without any restrictions.

Installing a Download Instrument's Full version copies that instrument's sample content to a separate folder on your hard disk, so that it is not necessary to keep its Standard version installed – you may either delete it from your hard disk or at least remove it from the Directory Manager's list of activated instruments. In the Vienna Instruments Browser, the path of the Full version will be the same as that of the corresponding DVD Instrument, so that you can still see both versions as separate entries if you keep the Standard version installed.

Data paths and Patch name conventions

Since the Full versions of Download Instruments conform to the corresponding DVD Instruments, the data paths in your Vienna Instruments browser will be different than those of Standard Download or Special Edition Instruments. For instance, the path of the Standard Download Library of Flute 1 is "02D Flute-1", and all Patches can be found in this folder regardless of the articulation group they belong to. The Patch number is also marked with a "D" so that you immediately know it is a Download Instrument. In the Vienna Special Edition, Flute 1 is located in the folder "11 Flutes" together with the other flutes. Here, the Patch number is marked with an "S". The Full Download of Flute 1 is located in the subfolder "32 Flute" of the section "Woodwind Patches", which again contains subfolders grouping the Patches according to type, e.g., "01 SHORT + LONG NOTES", "02 DYNAMICS", etc. Patch names of the Full Download Library may differ from the corresponding ones of the Standard Download Library.

While Full Download Instruments contain all articulations of the corresponding DVD Instruments, their Patches are not divided into Standard and Extended content. The list of articulations further down which gives a summary of the Library's contents.

Special Patch configurations which sometimes are part of a Standard Download Instrument may be found in a reserved folder called "98 RESOURCES" in the Full Instrument. E.g., Flute 1 Standard contains the Patch "22D FL1 legato-sus"; in Flute 1 Full, this Patch is called "01 FL1_perf_leg_sustain" and is located in the Resources' subfolder "03 Perf Speed variation". (Apart from that, it also contains more samples.) Other articulations that can be found in the Resources folder are isolated dynamics repetitions in the subfolder "01 Perf Rep dyn" – e.g., the five repetitions of a legato crescendo, divided into separate Patches – and extracted velocity layers of sustained notes in the subfolder "02 Long Notes – Single Layer".

Patch information

The Patch information includes articulation type, playing range, number of samples used, RAM requirements, the number of velocity layers and alternations, AB switching possibilities, etc., as well as Patch specific information if necessary.

Where the type of articulation requires a special mapping (e.g., natural harmonics patches), the mapping layout will be shown in a detailed graphic.

Major and minor runs are always mapped to the keys of their scale, as are **arpeggios** to the keys of the broken chord played. **Grace notes** and **mordents** are mapped to their target note, i.e., the note the articulation ends with. Due to their nature, all **upward and downward articulations** (e.g., fixed glissandos and octave runs) have different mapping ranges – the upward movements ending the involved interval below the Patch's upper mapping range, while downward movements end the interval above its lower mapping range. (Please note that not all of the articulations mentioned above may be contained in your Collection.)

The Patch information also lists a Patch's velocity layers in detail. Velocity layer switches generally are the same for patches with the same number of layers but may occasionally be adapted to the instrument's requirements:

Layers	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6
2	1–88	89–127				
3	1–55	56–88	89–127			
4	1–55	56–88	89–108	109-127		
5	1–24	25–55	56–88	89–108	109–127	
6	1–24	25–55	56–88	89–108	109–118	119–127

Interval performances

Interval performances are one of the outstanding features of our Vienna Instruments. They allow you to play authentic legato without any programming tricks. In our Silent Stage, all intervals from minor second to the octave were recorded for every instrument – up and down, of course; that makes 24 interval samples per note for one velocity alone! When you load an interval performance Patch and play a line on your keyboard, the software automatically joins the right samples with their interval transitions again, and you hear a perfect legato. By the way, this technique is not only used for legato but also for other articulations like the strings' portamento, marcato, or détaché and spiccato articulations.

Interval performances also contain at least two legato repetitions for every note which alternate automatically whenever you strike a key more than once. There also are preconfigured thresholds for legato and repetition notes: The legato threshold – i.e., the maximum break between notes where legato is played – is 50 ms. Otherwise, a sustained starting note will sound so that you can easily start a new phrase without leaving the legato Patch. For note repetitions, the threshold is 200 ms: a break up to that duration will yield a legato repetition; if the break is longer, a new starting note. But of course, it's mingling legato with other articulations which makes a piece really come alive.

Due to their nature, all interval performances are monophonic; otherwise, the software would have to be able to decide which source note belongs to which target note. To circumvent this, you can open two VI instances of the same instrument on separate MIDI tracks without any additional strain on your RAM.

Note: the Vienna Instruments PRO player software also allows you to play polyphonic Interval performances.

Another variety of interval performance you will come across is the "perf-leg_sus" Patch. These Patches also contain normal legatos, only the target note of each interval is crossfaded into a looped sustain. They can be used for slower pieces with long notes; however, you should use them with circumspection, since plain legatos sound more lively because they not only render the interval transitions as they were played, but also have different target samples for every interval instead of the same sustained note: When you play, e.g., c–e and then c#–e with normal legato, you will get two different "e" tones; with sus-legato you won't.

Matrix information

Each Matrix listing contains information regarding the Patches used for the Matrix, the number of horizontal and vertical dimensions, and switching properties. A mapping table shows the Cell positions for each of the Matrix' Patches.

A/B switching normally is set to A0 for upward/crescendo, and B0 for downward/diminuendo. However, some bass instruments go below that range so that the A/B keys have to be adapted accordingly. For example, the A/B switches for double bass are A0 and A#0 because the instrument's lower range extends to B0.

In order to facilitate working with **MIDI controller switches** like the Modulation wheel, the switching positions are not distributed equally across the controller range if they control more than two Matrix rows or columns; generally, the switching range will be narrower at the extreme positions because they are easy to set, and wider in the middle where it is harder to find the desired setting.

Speed controller switches naturally are adjusted to the Patches involved, and have been tested carefully as to their playability. However, if you find that they do not fit your playing, or want to try out other settings, you can change this as well as any other controller's settings at the **Control edit** page, and save the result in your Custom Matrix folder.

Preset information

The Preset information lists the Matrices used in the Preset as well as its keyswitches. All other information can be gathered from the Matrix and Patch listings, so there's not really much to say here. Please note that the Matrices of a Preset can also be switched with MIDI Program Changes (VI: 101–112; VI PRO: 1–127) instead of keyboard notes, and if you like to keep your keyboard free for playing instead of switching, you can disable Preset keyswitching and only use MIDI Program Changes. Vienna Instruments PRO also allows you to define a MIDI Control for Preset keyswitching.

Abbreviations

Here's a list of abbreviations in Patch names, which will help you to determine a Patch's content even without the help of the Vienna Instruments browser. Please note that not all of the abbreviations may occur in the manual on hand.

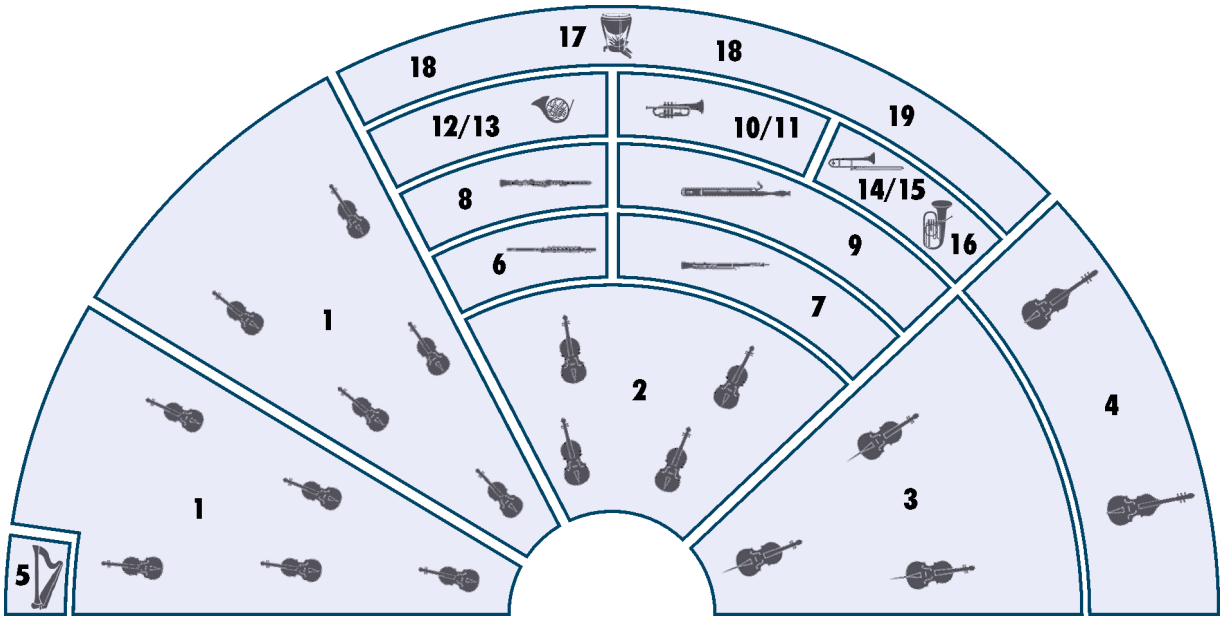
Abbreviation	Meaning	Abbreviation	Meaning
+	faster articulation (runs and arpeggios)	lo	long
		ma	major
150, 160, …	150, 160, … BPM (beats per minute)	marc	marcato
1s, 2s, …	tone length 1 sec., 2 sec., …	me	medium
acc	accelerando	mi	minor
all	combination of all Patches of a category	mord	mordent
		mu	muted
arp	arpeggio	muA, muB	muted, variation A/B
blare	"blared" tones (horn)	nA	normal attack
cre	crescendo	noVib	without vibrato
dim	diminuendo	perf-rep	repetition performance
dm	diminished (arpeggios)	por	portato
dyn	dynamics (crescendo and diminuendo)	run	octave run
		sA	soft attack
dyn5, dyn9	dynamics, 5/9 repetitions	sl	slow
fa	fast	sta, stac	staccato
faT	fast triplets	sto	stopped (horns)
fA	fast attack	str	strong
fA_auto	attack automation (normal/fast attack)	sus	sustained
		T	triplets
fast-rep	fast repetitions	tune	"tuning in" articulation
flatter	flutter tonguing	UB	upbeat
fx	effect sound	UB-a1, -a2	1, 2 upbeats
gliss	glissando	v1, v2 …	1st, 2nd, … variation
hA	hard attack	Vib	with (medium) vibrato
leg	legato	Vib-progr	progressive vibrato
li	light	XF	cell crossfade Matrix

Articulations

60 Contrabass tuba	
01 SHORT + LONG NOTES	Staccato Portato medium, with normal, soft and hard attack Portato long, soft and hard attack Sustained
02 DYNAMICS	Medium crescendo and diminuendo, 1, 1.5, 2, 3, 4, and 6 sec. Strong crescendo and diminuendo, 3, 4, and 5 sec. Fortepiano, sforzato, sforzatissimo
03 FLATTER + TRILLS	Flutter tonguing Trills, minor and major 2nd
04 MUTE BASIC	Portato medium and long Sustained Crescendo and diminuendo, 3 and 4 sec. Sforzato Flutter tonguing, crescendo
10 PERF INTERVAL	Legato, normal and with sustain crossfading Marcato
11 PERF INTERVAL FAST	Legato Marcato
12 PERF TRILL	Trills, legato, minor to major 2nd
13 PERF REPETITION	Portato and staccato, slow and fast
14 UPBEAT REPETITION	1–3 upbeats, 80–150 BPM
15 GRACE NOTES	Grace notes, minor and major 2nd, up and down

The orchestra

There are several ways of setting up an orchestra, depending on the era of the piece played, the type of the piece and the instruments it requires, and even on the preference of the conductor. The figure below shows one of the more common setups, which can be taken as a guideline for mixing a composition, properly positioning the instruments in the stereo field and adding reverb according to the size of the concert hall you want your piece to be played in.



1 1st and 2nd violin
2 Viola
3 Cello
4 Double bass
5 Harp
6 Concert flute, piccolo
7 Oboe, English horn
8 Clarinet, bass clarinet
9 Bassoon, contrabassoon
10/11 Trumpet
12/13 Horn
14/15 Trombone
16 Tuba
17 Timpani
18 Drums, cymbals
19 other percussion instruments

Pitch

For designating pitch, the Vienna Symphonic Library uses International Pitch Notation (IPN), which was agreed upon internationally under the auspices of the Acoustical Society of America. In this system the international standard of A=440 Hz is called A4 and middle C is C4. All pitches are written as capital letters, their respective octave being indicated by a number next to it. The lowest C on the piano is C1 (the A below that is A0), etc.

You can tune your Vienna Instruments to other players, or adjust it to tunings of earlier musical periods by setting the Perform page's Master Tune option within a range of 420 to 460 Hz.

60 Contrabass tuba

The instrument

Description

The contrabass tuba is currently made in two tunings: C and Bb. It is used primarily in opera orchestras and in brass and military bands. It is rarely asked for in symphony orchestras.

In some regions of Germany and in Scandinavia, the United Kingdom and the USA, where the bass tuba (in F or Eb) is not in use, the contrabass tuba in C with four valves is common as a kind of all-round instrument: it is played not only in the orchestra but also in chamber music and as a solo instrument.

Range and notation

The contrabass tuba has a range of A0–B3. Music for the bass and contrabass tubas is generally non-transposing and written in bass clef. The instrument is pitched in the contrabass register.

Sound characteristics

Round, calm, hearty, loud, robust, ponderous, sustaining, soothing, earthy, sonorous, majestic, cavernous, rumbling, unfathomable, grave, weighty, broad, resonant.

In all registers the tone is richer, rounder and darker than the bass tuba and less metallic than the bass and contrabass trombones. The actual pitch of the lowest notes is hard to detect. Below F2 the tone is the typical contrabass tuba sound, above it it sounds like a tuba in F.

Combination with other instruments

The contrabass tuba is a contrabass instrument. One of its principal tasks is the doubling of other bass instruments, usually an octave lower. Especially in tutti passages its role is to provide a firm fundamental bass. In especially large brass sections, for example with six or eight horns, two tubas are used, either two bass tubas or a bass and a contrabass tuba.

Patches

01 SHORT + LONG NOTES — Range: A0–C4

01 CTU_staccato — **Samples: 282** — **RAM: 17 MB**

Staccato
4 velocity layers
4 Alternations

02 CTU_portato_medium — **Samples: 276** — **RAM: 17 MB**

Portato, medium
4 velocity layers
4 Alternations

03 CTU_portato_medium_soft — **Samples: 142** — **RAM: 8 MB**

Portato, medium, soft attack
4 velocity layers
2 Alternations

04 CTU_portato_medium_hard — **Samples: 222** — **RAM: 13 MB**

Portato, medium, hard attack
3 velocity layers
4 Alternations

05 CTU_portato_long_soft — **Samples: 259** — **RAM: 16 MB**

Portato, long, soft attack
4 velocity layers
Release samples
2 Alternations

06 CTU_portato_long_hard — **Samples: 220** — **RAM: 13 MB**

Portato, long, hard attack
3 velocity layers
Release samples
2 Alternations

11 CTU_sus — **Samples: 222** — **RAM: 13 MB**

Sustained
3 velocity layers
Release samples

02 DYNAMICS — Range: A0–C4

01 CTU_dyn-me_1s — **Samples: 148** — **RAM: 9 MB**

Medium crescendo and diminuendo, 1 sec.
2 velocity layers
AB switch: crescendo/diminuendo

02 CTU_dyn-me_1'5s — **Samples: 148** — **RAM: 9 MB**

Medium crescendo and diminuendo, 1.5 sec.
2 velocity layers
AB switch: crescendo/diminuendo

03 CTU_dyn-me_2s — **Samples: 148** — **RAM: 9 MB**

Medium crescendo and diminuendo, 2 sec.
2 velocity layers
AB switch: crescendo/diminuendo

04 CTU_dyn-me_3s — **Samples: 144** — **RAM: 9 MB**

Medium crescendo and diminuendo, 3 sec.
2 velocity layers
AB switch: crescendo/diminuendo

05 CTU_dyn-me_4s — **Samples: 144** — **RAM: 9 MB**

Medium crescendo and diminuendo, 4 sec.
2 velocity layers
AB switch: crescendo/diminuendo

06 CTU_dyn-me_6s — **Samples: 74** — **RAM: 4 MB**

Medium crescendo and diminuendo, 6 sec.
1 velocity layer
AB switch: crescendo/diminuendo

11 CTU_dyn-str_3s — **Samples: 74** — **RAM: 4 MB**

Strong crescendo and diminuendo, 3 sec.
1 velocity layer
AB switch: crescendo/diminuendo

12 CTU_dyn-str_4s — **Samples: 74** — **RAM: 4 MB**

Strong crescendo and diminuendo, 4 sec.
1 velocity layer
AB switch: crescendo/diminuendo

13 CTU_dyn-str_5s — **Samples: 74** — **RAM: 4 MB**

Strong crescendo and diminuendo, 5 sec.
1 velocity layer
AB switch: crescendo/diminuendo

21 CTU_fp **Samples: 37** **RAM: 2 MB**

Fortepiano
1 velocity layer
2 Alternations

22 CTU_sfz **Samples: 30** **RAM: 1 MB**

Sforzato
1 velocity layer
2 Alternations

23 CTU_sffz **Samples: 30** **RAM: 1 MB**

Sforzatissimo
1 velocity layer
2 Alternations

03 FLATTER + TRILLS Range: C1–C4

01 CTU_flatter **Samples: 64** **RAM: 4 MB**

Flutter tonguing
1 velocity layer
Release samples

11 CTU_trill_1 **Samples: 126** **RAM: 7 MB**

Trills, minor 2nd
2 velocity layers
Release samples

12 CTU_trill_2 **Samples: 126** **RAM: 7 MB**

Trills, major 2nd
2 velocity layers
Release samples

04 MUTE BASIC Range: A0–C4

01 CTU_mu_portato_medium **Samples: 218** **RAM: 13 MB**

Portato, medium
3 velocity layers
4 Alternations

02 CTU_mu_portato_long **Samples: 180** **RAM: 11 MB**

Portato, long
3 velocity layers
Release samples
2 Alternations

03 CTU_mu_sus **Samples: 148** **RAM: 9 MB**

Sustained
2 velocity layers
Release samples

11 CTU_mu_dyn_3s **Samples: 74** **RAM: 4 MB**

Medium crescendo and diminuendo, 3 sec.
1 velocity layer
AB switch: crescendo/diminuendo

12 CTU_mu_dyn_4s **Samples: 74** **RAM: 4 MB**

Medium crescendo and diminuendo, 4 sec.
1 velocity layer
AB switch: crescendo/diminuendo

13 CTU_mu_sfz **Samples: 37** **RAM: 2 MB**

Sforzato
1 velocity layer
2 Alternations

21 CTU_mu_flatter-cre **Range: D1–C4** **Samples: 30** **RAM: 1 MB**

Flutter tonguing, crescendo
1 velocity layer

10 PERF INTERVAL **Range: A0–C4**

01 CTU_perf-legato **Samples: 877** **RAM: 54 MB**

Legato
2 velocity layers
Release samples

02 CTU_perf-legato_sus **Samples: 803** **RAM: 50 MB**

Legato
Sustain crossfading
2 velocity layers
Release samples

03 CTU_perf-marcato **Samples: 966** **RAM: 60 MB**

Marcato
2 velocity layers
Release samples

11 PERF INTERVAL FAST — Range: A0–C4

01 CTU_perf-legato_fa — Samples: 945 — RAM: 59 MB

Legato, fast
2 velocity layers
Release samples

02 CTU_perf-marcato_fa — Samples: 1034 — RAM: 64 MB

Marcato, fast
2 velocity layers
Release samples

12 PERF TRILL — Range: A0–C4

01 CTU_perf-trill — Samples: 1549 — RAM: 96 MB

Performance trills, legato, minor to major 2nd
2 velocity layers
Release samples

13 PERF REPETITION — Range: A#0–C4

01 CTU_perf-rep_por-sl — Range: A0–C4 — Samples: 335 — RAM: 20 MB

Repetition performances: Portato, slow
2 velocity layers

02 CTU_perf-rep_por-fa — Samples: 306 — RAM: 19 MB

Repetition performances: Portato, fast
2 velocity layers

03 CTU_perf-rep_sta-sl — Samples: 306 — RAM: 19 MB

Repetition performances: Staccato, slow
2 velocity layers

04 CTU_perf-rep_sta-fa — Samples: 306 — RAM: 19 MB

Repetition performances: Staccato, fast
2 velocity layers

14 UPBEAT REPETITION

A Single Upbeat

01 CTU_UB-a1_80 (90/100) **Range: A0–A3** **Samples: 66** **RAM: 4 MB**

1 upbeat, 80–100 BPM
2 velocity layers

04 CTU_UB-a1_110 (120/130/140/150) **Range: A#0–A#3** **Samples: 64** **RAM: 4 MB**

1 upbeat, 110–150 BPM
2 velocity layers

B Double Upbeats

Range: A#0–A#3

01 CTU_UB-a2_80 (90/100/110/120/130/140/150) **Samples: 74** **RAM: 4 MB**

2 upbeats, 80–150 BPM
2 velocity layers

C Triple Upbeats

Range: A#0–A#3

01 CTU_UB-a3_80 (90/100/110/120/130/140/150) **Samples: 64** **RAM: 4 MB**

3 upbeats, 80–150 BPM
2 velocity layers

15 GRACE NOTES

Range: A0–C4

01 CTU_grace-1 **Samples: 222** **RAM: 13 MB**

Grace notes, minor 2nd
2 velocity layers
Release samples
AB switch: up/down

02 CTU_grace-2 **Samples: 222** **RAM: 13 MB**

Grace notes, major 2nd
2 velocity layers
Release samples
AB switch: up/down

98 RESOURCES

02 Long Notes - Single Layer — Range: A0–C4

01 CTU_sus_p — **Samples: 74** — **RAM: 4 MB**

Sustained, piano
1 velocity layer
Release samples

02 CTU_sus_mf — **Samples: 74** — **RAM: 4 MB**

Sustained, mezzoforte
1 velocity layer
Release samples

03 CTU_sus_f — **Samples: 74** — **RAM: 4 MB**

Sustained, forte
1 velocity layer
Release samples

99 RELEASE

This section contains release samples for various patches of the other sections. Please do not try to load them into a Vienna Instruments matrix – you will not be able to hear anything when you try to play them.

Matrices

Matrix - LEVEL 1

L1 CTU Articulation Combi — Samples: 1455 RAM: 90 MB

Single note articulations
Staccato, portato medium, sustained, crescendo and diminuendo 2 and 4 sec., fortepiano and sforzato, flutter tonguing, and half and whole tone trills

Matrix switches: Horizontal: Keyswitches, C1–F1 Vertical: Modwheel, 2 zones

	C6	C#6	D6	D#6	E6	F6
V1	staccato	sustained	dynamics 2s.	fp	flutter	trill half
V2	port. medium	sustained	dynamics 4s.	sfz	flutter	trill whole

L1 CTU Perf-Legato Speed — Samples: 1089 RAM: 68 MB

Interval performances
Legato with sustain crossfading, normal, and fast
Speed controller

Matrix switches: Horizontal: Speed, 3 zones

	H1	H2	H3
legato	sus-XF	normal	fast

L1 CTU Perf-Repetitions Combi — Samples: 641 RAM: 40 MB

Repetition performances
Portato slow
Staccato fast

Matrix switches: Vertical: Modwheel, 2 zones

	repetitions
V1	portato slow
V2	staccato fast

Matrix - LEVEL 2 A - Advanced

01 CTU Perf-Universal — Samples: 2193 RAM: 137 MB

Interval performances
Legato with sustain crossfading, normal, and fast
Marcato normal and fast
Speed controller

Matrix switches: Horizontal: Speed, 3 zones Vertical: Modwheel, 2 zones

	H1	H2	H3
legato	sus-XF	normal	fast
marcato	normal	normal	fast

02 CTU Perf-Trill Speed — Samples: 1693 RAM: 105 MB

Multi interval performances
Legato and trills
Speed controller

Matrix switches: Horizontal: Speed, 2 zones

	H1	H2
V1	legato	trills

03 CTU Short+Long notes — Samples: 928 RAM: 58 MB

Single notes
Staccato, portato medium, portato long with soft attack, and sustained

Matrix switches: Horizontal: Keyswitches, C6–D#6

	C6	C#6	D6	D#6
V1	staccato	port. med.	port.long soft	sustained

Matrix - LEVEL 2 B - Standard

11 CTU Perf-Legato Speed — Samples: 1089 RAM: 68 MB

Interval performances
Legato with sustain crossfading, normal, and fast
Speed controller

Matrix switches: Horizontal: Speed, 3 zones

	H1	H2	H3
legato	sus-XF	normal	fast

12 CTU Perf-Marcato Speed — Samples: 1178 RAM: 73 MB

Interval performances^mMarcato normal and fast
Speed controller

Matrix switches: Horizontal: Speed, 2 zones

	H1	H2
marcato	normal	fast

13 CTU Dynamics - Small — Samples: 533 RAM: 33 MB

Dynamics
Medium crescendo and diminuendo, 2, 3, and 4 sec.
Fortepiano, sforzato, sforzatissimo

Matrix switches: Horizontal: Keyswitches, C6–D6 Vertical: Modwheel, 4 zones

	C6	C#6	D6
dyn.medium	2 sec.	3 sec.	4 sec.
fp	%	%	%
sfz	%	%	%
sffz	%	%	%

14 CTU Dynamics - Large — Samples: 1125 RAM: 70 MB

Dynamics
Medium crescendo and diminuendo, 1, 1.5, 2, 3, 4, and 6 sec.
Strong crescendo and diminuendo, 3, 4 and 5 sec.
Fortepiano, sforzato, sforzatissimo

Matrix switches: Horizontal: Keyswitches, C6–D6 Vertical: Modwheel, 4 zones

	C6	C#6	D6
dyn.medium	1 sec.	1.5 sec.	2 sec.
dyn.medium	3 sec.	4 sec.	6 sec.
dyn.strong	3 sec.	4 sec.	5 sec.
fp/sfz/sffz	fp	sfz	sffz

15 CTU Flatter — Samples: 64 RAM: 4 MB

Single notes: Flutter tonguing

16 CTU Trills - normal — Samples: 252 RAM: 15 MB

Trills, minor and major 2nd

Matrix switches: Vertical: Modwheel, 2 zones

	C1
V1	min. 2nd
V2	maj. 2nd

17 CTU Mute Short+Long — Samples: 502 RAM: 31 MB

Muted tones
Portato medium and long, sustained, and crescendo flutter tonguing

Matrix switches: Horizontal: Keyswitches, C6–D#6

	C6	C#6	D6	D#6
V1	port. med.	port.long	sustained	flutter cres.

18 CTU Mute Dynamics — Samples: 185 RAM: 11 MB

Dynamics
Crescendo and diminuendo, 3 and 4 sec.
Sforzato

Matrix switches: Horizontal: Keyswitches, C6–C#6 Vertical: Modwheel, 2 zones

	C6	C#6
Cres/dim	3 sec.	4 sec
sforzato	%	%

Matrix - LEVEL 2 C - Repetitions

31 CTU Perf-Repetitions - Combi — Samples: 1253 RAM: 78 MB

Repetition performances
Portato slow and fast, staccato slow and fast

Matrix switches: Horizontal: Keyswitches, C6–D#6

	C6	C#6	D6	D#6
V1	portato slow	portato fast	staccato slow	staccato fast

32 CTU Perf-Repetitions - Speed

Samples: 918 **RAM: 57 MB**

Repetition performances
Portato fast, staccato slow and fast
Speed controller

Matrix switches: Horizontal: Speed, 3 zones

	H1	H2	H3
V1	portato fast	staccato slow	staccato fast

33 CTU Upbeats a1

Samples: 518 **RAM: 32 MB**

Repetitions: 1 upbeat, 80–150 BPM

Matrix switches: Horizontal: Keyswitches, C6–G6

	C6	C#6	D6	D#6	E6	F6	F#6	G6
speed/BPM	80	90	100	110	120	130	140	150

34 CTU Upbeats a2

Samples: 542 **RAM: 33 MB**

Repetitions: 2 upbeats, 80–150 BPM

Matrix switches: Horizontal: Keyswitches, C6–G6

	C6	C#6	D6	D#6	E6	F6	F#6	G6
speed/BPM	80	90	100	110	120	130	140	150

35 CTU Upbeats a3

Samples: 512 **RAM: 32 MB**

Repetitions: 3 upbeats, 80–150 BPM

Matrix switches: Horizontal: Keyswitches, C6–G6

	C6	C#6	D6	D#6	E6	F6	F#6	G6
speed/BPM	80	90	100	110	120	130	140	150

36 CTU Upbeats all

Samples: 1572 **RAM: 98 MB**

Repetitions: 1–3 upbeats, 80–150 BPM

Matrix switches: Horizontal: Keyswitches, C6–G6 Vertical: Modwheel, 3 zones

	C6	C#6	D6	D#6	E6	F6	F#6	G6
1 upbeat	80	90	100	110	120	130	140	150
2 upbeats	80	90	100	110	120	130	140	150
3 upbeats	80	90	100	110	120	130	140	150

Matrix - LEVEL 2 D - Scale+Phrase

41 CTU Grace notes - All

Samples: 370 **RAM: 23 MB**

Grace notes, minor and major 2nd
AB switch up/down

Matrix switches: Horizontal: Keyswitches, C6–C#6

	C6	C#6
interval	min. 2nd	maj. 2nd

Presets

CTU VSL Preset Level 1 **Samples: 3037 RAM: 189 MB**

L1 CTU Perf-Legato Speed
L1 CTU Articulation Combi
L1 CTU Perf-Repetitions Combi
Preset keyswitches: C7–D7

CTU VSL Preset Level 2 **Samples: 5569 RAM: 348 MB**

01 CTU Perf-Universal
02 CTU Perf-Trill Speed
L1 CTU Articulation Combi
31 CTU Perf-Repetitions - Combi
Preset keyswitches: C7–D#7